

X22C SAFETY CHECKLIST			BROOKHAVEN NATIONAL LABORATORY NATIONAL SYNCHROTRON LIGHT SOURCE
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ON THE X21 SIDE

- ☐ 1. Valid Padlock Index and log, no locks open.
- ☐ 2. Exclusion Zone (EZ #1) between Isolation Valve and Bremsstrahlung shield (BS #1).
- ☐ 3. Bremsstrahlung shield (BS #1) in place and banded see photo 1.
- ☐ 4. Exclusion Zone (EZ #2) downstream of Bremsstrahlung shield (BS #1)
- ☐ 5. Vacuum Bellows #1 wrapped in lead downstream of Bremsstrahlung shield (BS #1).
- ☐ 6. Vacuum Bellows #2 wrapped in lead upstream of Bremsstrahlung shield (BS #2).
- ☐ 7. Bremsstrahlung shield (BS # 2) in place and banded see photo 2.
- ☐ 8. Vacuum Bellows #3 wrapped in lead downstream of Bremsstrahlung shield (BS #2).

ON THE X23 SIDE

- ☐ 9. Exclusion Zone (EZ #3) upstream of Bremsstrahlung shield (BS #3).
- ☐ 10. Bremsstrahlung shield (BS # 3) in place and banded see photo 3.
- ☐ 11. Water cooled Beryllium window #1C wrapped in lead downstream of BS #3. see photo 3A
- ☐ 12. Vacuum Bellows #4 wrapped in lead downstream of BS #3. see photo 3A
- ☐ 13. Mask and Slit Tank wrapped in lead. See photo 3B
- ☐ 14. Vacuum Bellows #5 wrapped in lead upstream of BS #5. see photo 3B
- ☐ 15. Exclusion Zone (EZ #4) upstream of Bremsstrahlung shield (BS #5).
- ☐ 16. Bremsstrahlung shield (BS # 5) in place and banded see photo 4.
- ☐ 17. Vacuum Bellows #6 wrapped in lead downstream of Bremsstrahlung shield (BS #5).
- ☐ 18. Bremsstrahlung shield (BS # 6) in place and banded see photo 5.
- ☐ 19. Exclusion Zone (EZ #5) downstream of Bremsstrahlung shield (BS #6).
- ☐ 20. Bremsstrahlung shield (BS # 7) in place and banded and upstream scatter shielding. see photo 6
- ☐ 21. Water cooled Beryllium window #2C wrapped in lead upstream of Monochrometer tank.
- ☐ 22. Lead skirt and leaded Plexiglas on viewport on Monochrometer tank.(At 10 o'clock position)
- ☐ 23. Lead skirt on feedthrough flange on Monochromator tank.(At 4 o'clock position)
- ☐ 24. Exclusion Zone (EZ #6) upstream of Bremsstrahlung shield (BS #8).
- ☐ 25. Bremsstrahlung shield (BS # 8) in place and banded see photo 7.
- ☐ 26. Exclusion Zone (EZ #7) downstream of Bremsstrahlung shield (BS #8).
- ☐ 27. Vacuum Bellows #7 wrapped in lead downstream of Bremsstrahlung shield (BS #8).

INSIDE OF THE X22C HUTCH

- ☐ 28. Leaded Plexiglas window where beam tube enters the hutch is in place.
- ☐ 29. Bremsstrahlung shield (BS # 9) in place and banded outside of hutch see photo 8.

USER SYSTEM CHECKS

- ☐ A. Monochromator tank pressure < 2×10^{-6} Torr. Pressure indicated on ion pump controller.

Checked by: _____ Date: _____

OPCO: _____ Date: _____